Operating instructions

for the system user

Compact heat pump
with electric drive, type BWP

VITOCAL 200-G

5592 534 GB 3/2007

Please keep safe.

For your safety

Please follow these safety instructions closely to prevent accidents and material losses.

Safety instructions explained

Danger
This symbol warns against the risk of injury.

Please note
This symbol warns against the risk of material losses and environmental pollution.

Note
Details identified by the word "Note" contain additional information.

Target group

These operating instructions are designed for system users.

Danger
Incorrect work on the system can lead to life-threatening accidents.
Work on electrical equipment must only be carried out by a qualified electrician.

In case of fire

Danger
With fire there is a risk of burning.
- Shut down the heating system.
- Use a tested fire extinguisher, class ABC.

Boiler room conditions

Please note
Incorrect ambient conditions can lead to heating system damage and can put the safe operation at risk.
- Ensure ambient temperatures above 0 ºC and below 35 ºC.
- Prevent air contamination by halogenated hydrocarbons (e.g. as contained in paints, solvents or cleaning fluids) and excessive dust (e.g. through grinding/polishing work).
- Avoid continuously high humidity levels (e.g. through frequent drying of washing).

Ancillary components, spare and wearing parts

Please note
Components which are not tested with the system may lead to system damage, or may affect its functions.
Installation or replacement must only be carried out by qualified personnel.

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Device description

The Vitocal 200-G is a brine/water heat pump with an electric drive.
- Up to two heating circuits (one with mixer) can be heated.
- Any peak demand can be covered by an integral electric heater (mono-mode operation), which is available as an accessory.
- The control side of this equipment is prepared for DHW heating using an external DHW cylinder and for the control of a DHW circulation pump.
- The control of the components required for the natural cooling function is prepared.

Your system is preset at the factory

The control unit is preset at the factory.
Your heating system is ready for use after selecting a specific operating mode (see from page 12):
- Central heating with standard room temperature (20 °C) **all day**.
- Subject to a DHW cylinder being installed, the DHW will be heated **all day**.
  Any installed heating water buffer cylinder will be heated up.
  The DHW circulation pump is switched OFF.
- **Day and time** (CET) were set up in the factory.
  Winter/summer time changeover will be implemented automatically.

You may change the standard settings preset at the factory in accordance with personal requirements.

Note
All data is saved in case of power failure.

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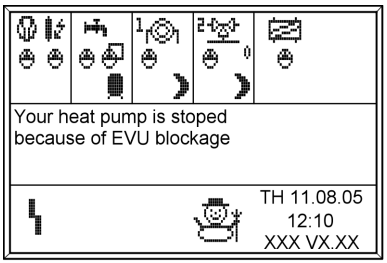
Power interruptions



During any power interruption by the power supply utility, the display shows the text in the screenshot.
The control unit restarts in accordance with the selected operating mode as soon as the utility restores the power supply.
Subject to the type of power supply, the interruption may affect either the heat pump or only the instantaneous heating water heater (accessories) or both.
It is technically possible to provide central heating during power interruptions subject to the heating system being equipped with a heating water buffer cylinder. For this, consult your local heating contractor.

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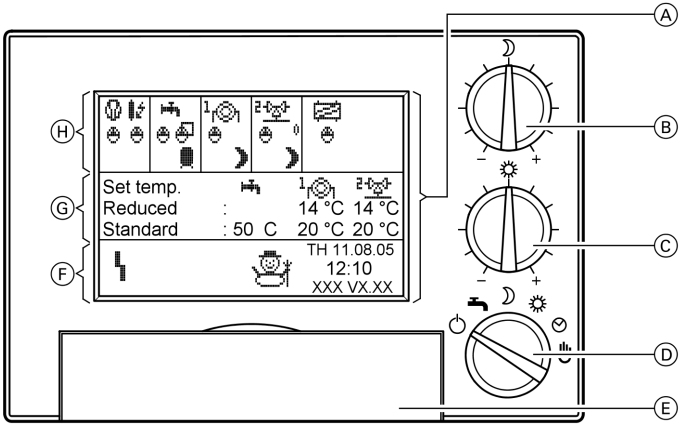
Summary of controls and indicators

You can change all settings of your heating system, centrally, at the programming unit.
All existing control circuits are displayed as symbols on the display Ⓗ when the programming unit flap is closed.
When the programming unit flap is open (see Fig. on page 8), all control circuits and additional components can be called up by pressing **"System settings"** and **"Program"**.
Subject to system version, the following options are offered:

- **"Domestic hot water"**
- **"Heating circuit(s)"**
- **"Buffer storage"** (if installed)
- **"Natural cooling"** (if installed)
- **"Access rights"** (only for heating contractors)

Functions



Ⓐ Display screen with **closed** programming unit flap Ⓔ
Ⓑ "Reduced room temperature" rotary selector
Ⓒ "Standard room temperature" rotary selector
Ⓓ Operating mode selector
Ⓔ Programming unit flap (closed)
Ⓕ Display area for current operating conditions
Ⓖ Display area for the selected set temperatures
Ⓗ Display area for enabled system components

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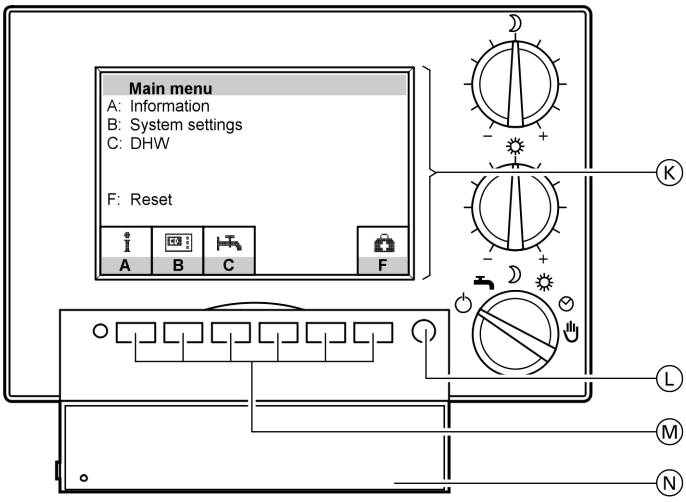
Summary of controls and indicators (cont.)



Ⓚ Display screen with **open** programming unit flap Ⓜ
Ⓛ "Standard display" key (for changing between the standard display and the main menu without opening or closing the programming unit)
Ⓜ Menu keys
Ⓝ Programming unit flap (open)

Symbols in the display

The symbols described in the following are only visible with the programming unit flap **closed** (see the illustration on page 7). These symbols are not always displayed, but appear subject to the system version and the prevailing operating conditions. The respective symbols will move if the compressor or pumps are running.

Possible displays in areas Ⓖ and Ⓗ of the display:

- Heat pump
- DHW cylinder
- Heating circuit 1
- Heating circuit 2 (mixer circuit)
- Natural cooling
- Electric heating (if enabled, with display of stages (1, 2, 3))
- Pump
- Operation with switching times
- Remote control
- External default of the operating mode
- Standby
- Reduced mode; heating circuit

Summary of controls and indicators (cont.)

- Standard mode; heating circuit
- Fixed value regulator; heating circuit
- Reduced mode; DHW
- Standard mode; DHW
- Heating up to the set DHW temperature 2

Possible displays in area Ⓕ of the display:

- Fault
- Holiday program is active
- Party mode is active
- Max. DHW volume is active
- Frost protection is active
- Drying buildings is active
- Winter mode is active
- Natural cooling is active
- Summer mode is active
- Manual mode is active

Operation when using remote control units (accessories)

One remote control unit can be connected for each heating circuit (accessories).

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Note
Never set the operating mode selector of the Vitocal 200 to manual mode when a remote control unit is connected (see page 00).
Otherwise the fault indicator will illuminate at the remote control.

One heating circuit with remote control

The standard room temperature and the operating modes are selected at the remote control unit.

The reduced room temperature is selected at the Vitocal 200 programming unit (see from page 16).

Two heating circuits, one with remote control

Your heating contractor will have determined, which heating circuit is to be affected by the remote control.

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Operation when using remote control units . . . (cont.)

- The settings for the heating circuit without remote control are selected at the Vitocal 200 programming unit (see from page 21).
- The settings for the heating circuit with remote control are made at the remote control.
  Only the reduced room temperature (see from page 16) is selected at the Vitocal 200 programming unit.

Two heating circuits, each with remote control

The standard room temperature and the operating modes are selected at the respective remote control unit.

The reduced room temperature is selected for both heating circuits together at the Vitocal 200 programming unit (see from page 16).

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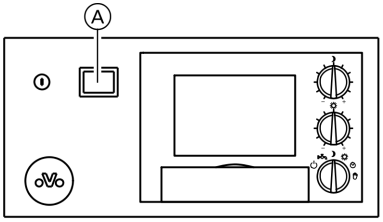
Starting the heating system

The commissioning and matching of the control unit to local conditions and the structural characteristics of the building must be carried out by your heating contractor.

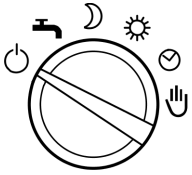


1. Check the system pressure at the pressure gauge: The system pressure is too low if the indicator points to the area below 1.2 bar. In such cases contact your local heating contractor.

2. Switch ON the power supply, e.g. at a separate fuse or a main isolator.

3. Switch the system ON/OFF switch Ⓐ ON;
   after a short while, the selected set temperatures and the current operating conditions are shown on the display.
   Your system is now ready for use.

Shutting down the heating system



If you do not want to use your heat pump (for example during a summer holiday), select the holiday program (see page 19) or switch the operating mode selector to "Standby" (see page 14).

The system is protected against frost in standby mode.
Frost protection is disabled and pumps may seize up, if the equipment is shut down at the **system ON/OFF switch**.
However, in standby mode, all connected pumps, for which this is required, will be started daily for 10 seconds. This prevents the pumps seizing up.

DHW and central heating

Subject to two heating circuits being connected, all settings made at the operating mode selector affect **both** heating circuits.

Central heating

Central heating will only take place during the heating season. The heating season will be determined subject to the outside temperature. The start up limit (heating limit temperature) that relates to the outside temperature, can be selected by your heating contractor.

Natural cooling function

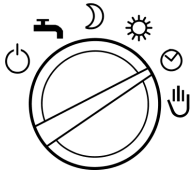
The natural cooling function will only be applied when outside temperatures are high. The start up limit (cooling limit temperature) that relates to the outside temperature, can be selected by your heating contractor.

Scope

The operating modes described in the following relate to a fully equipped heat pump system.

Where individual components are not installed (e.g. DHW cylinder, heating water buffer cylinder and the natural cooling function), then the corresponding functions will also not be available.

Central heating as programmed operation



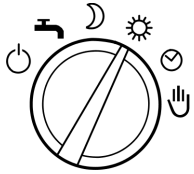
- Central heating in accordance with the selected **switching times** and operating modes (see page 18)
- DHW heating in accordance with the selected **switching times** and operating modes (see from page 23)
- Frost protection for the heat pump, the DHW cylinder and the heating water buffer cylinder
- Cooling by means of the natural cooling function

DHW and central heating (cont.)

Switch ON

Set the operating mode selector to ⏲. Different symbols will be shown in area Ⓕ of the display (see page 7) subject to outside temperature and system configuration.
For an explanation of these symbols, see page 9.

Central heating with standard room temperature

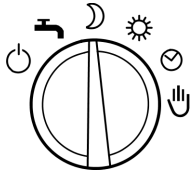


- **All day** central heating with the standard room temperature (see from page 16)
- DHW heating in accordance with the selected **switching times** and operating modes (see from page 23)
- Frost protection for the heat pump, the DHW cylinder and the heating water buffer cylinder
- Cooling by means of the natural cooling function

Switch ON

Set the operating mode selector to ☀. Different symbols will be shown in area Ⓕ of the display (see page 7) subject to outside temperature and system configuration.
For an explanation of these symbols, see page 9.

Central heating with reduced room temperature



- **All day** central heating with reduced room temperature
- DHW heating in accordance with the selected **switching times** and operating modes (see from page 23)
- Frost protection for the heat pump, the DHW cylinder and the heating water buffer cylinder
- Cooling by means of the natural cooling function

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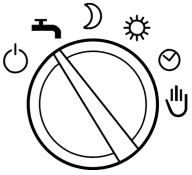
DHW and central heating (cont.)

Switch ON

Set the operating mode selector to ☽.
Different symbols will be shown in area Ⓕ of the display (see page 7) subject to outside temperature and system configuration.
For an explanation of these symbols, see page 9.

DHW heating only

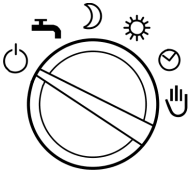


- DHW heating in accordance with the selected **switching times** and operating modes (see from page 23)
- Frost protection for the heat pump, the DHW cylinder and the heating water buffer cylinder
- **No** cooling by the natural cooling function
- **No** central heating

Switch ON

Set the operating mode selector to 🛁.
Different symbols will be shown in area Ⓕ of the display (see page 7) subject to outside temperature and system configuration.
For an explanation of these symbols, see page 9.

Standby mode



- Frost protection for the heat pump, the DHW cylinder and the heating water buffer cylinder
- **No** central heating
- **No** cooling by the natural cooling function

Switch ON

Set the operating mode selector to ⏻.
Different symbols will be shown in area Ⓕ of the display (see page 7) subject to outside temperature and system configuration.
For an explanation of these symbols, see page 9.

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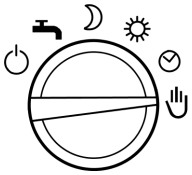
Manual mode

Note
Please use this operating mode only after checking with your local heating contractor.



- Unregulated heating of the connected heating circuits with a set flow temperature of 45 °C
- **No** DHW heating
- **No** cooling by the natural cooling function
- All mixers are at zero volt, i.e. they remain in the same position in which they were set before manual mode was selected

Switch ON

Set the operating mode selector to ✋.
Area Ⓕ of the display (see page 7) shows symbol ✋.

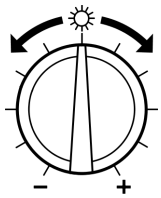
Setting a permanent room temperature

Observe the following points if you want to activate central heating:

1. ☼, ☽ or ⏲ must be selected at the operating mode selector.
2. **At what time** central heating takes place in programmed mode (⏲) with either standard or reduced room temperature is subject to the selected switching times (see page 18).

Setting a standard room temperature

In the delivered condition, the standard room temperature is set to 20 °C with the rotary selector ☼ set to its centre position. You can adjust this temperature by ±5 °C at the rotary selector ☼, without altering the **programmed** values (see page 17).



Select the required temperature at the rotary selector ☼.

Note
*If two heating circuits are installed, this change will affect **both** heating circuits.*
After a short delay, the new set temperature will be shown in area Ⓖ of the display (see page 7).

Setting a reduced room temperature

In the delivered condition, the reduced room temperature is set to 14 °C with the rotary selector ☽ set to its centre position. You can adjust this temperature by ±5 °C at the rotary selector ☽, without altering the **programmed** values (see page 17).

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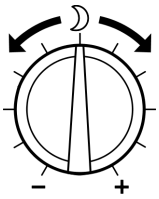
Setting a permanent room temperature (cont.)



Select the required temperature at the rotary selector ◗.

Note
*If two heating circuits are installed, this change will affect **both** heating circuits.*
After a short delay, the new set temperature will be shown in area Ⓖ of the display (see page 7).

Changing the default settings of the standard and reduced room temperature

In this menu, you can define the temperature when the rotary selectors ✹ and ◗ are in their centre position.

Heating circ. 1		[°C]
Common temperature	:	20.0
Red. temperature	:	14.0
T. prog. heat. circ.	:	–>T
Start optimisation	:	Yes
Heating curve level	:	1.0
Heat. curve incli.	:	0.6
↓	–1.0 | +1.0 | STANDA | OK	

Press the following keys:

1. **"System settings"**.
2. **"Program"**.
3. **"Heating circuit"**.
4. **"Heating circ. 1"**
   or
   "Heating circ. 2" (if installed).
5. ↓ / ↑ until the required temperature ("**Common temperature**" or "**Reduced temperature**") is highlighted (see the screenshot).
6. **–1,0** / **+1,0** until the required temperature is selected. The **reduced** room temperature **cannot be set higher** than the **standard** room temperature.
7. "**OK**" to confirm and exit the menu.

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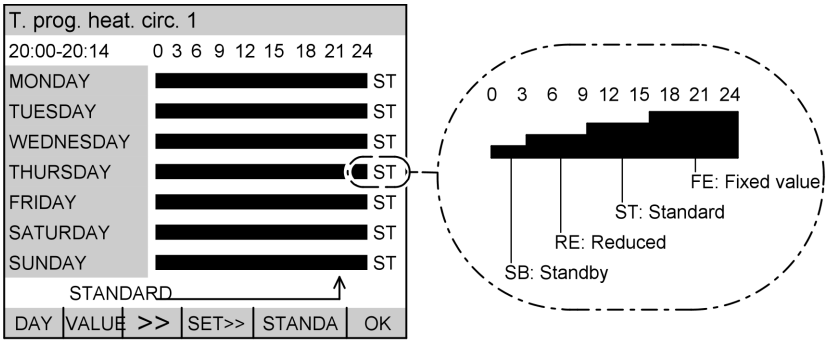
Setting a permanent room temperature (cont.)

Setting switching times (time program ⏲)

For central heating, setting the switching times can affect a changeover between the operating modes "**Standby**", "**Reduced**", "**Standard**", and "**Fixed value**".
You can select **identical** time programs for every day or **individual** programs for each day separately.
When setting the switching times, take the response time of your heating system into consideration. Select start and stop times correspondingly **earlier** or utilise the "Heating circuit start optimisation" function (see page 32).

Note
From an energy point of view, continuous heating to the standard room temperature is advantageous for heat pumps. For that reason it is the factory default setting.
*Consult your local heating contractor **before** making any modifications.*



The height of the bar and the abbreviation indicate the respective operating mode associated with the displayed time (l.h. top of the display).

Note
*With the "**Fixed value**" operating mode, the system heats to the maximum flow temperature. This value can be set up by your local heating contractor.*
*For setting the standard and reduced room temperature for the "**Standard**" and "**Reduced**" operating modes, see from page 16.*

Press the following keys:

1. **"System settings"**.
2. **"Program"**.
3. "**Heating circuit**".

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Setting a permanent room temperature (cont.)

4. **"Heating circ. 1"** or **"Heating circ. 2"** (if installed).
5. [↓]/[↑] until **"T. prog. heat. circ. "** is highlighted.
6. [>>>] the menu **"T. prog. heat. circ. "** is displayed (see the screenshot).
7. **DAY** until the respective day or the required period is highlighted.
8. [>>] until the arrow is positioned at the point (time), from where the operating mode should be changed.
9. **VALUE** until the required operating mode is shown.
10. **SETPT** for the period during which the modified operating mode should be effective.
11. Proceed as described in items 7 to 10 for the setting of further switching times.
12. **OK** to confirm and exit the menu.

Changing the room temperature for a few days only

If you leave your home for a few days (e.g. on holiday), you have the following options:

- You can switch OFF central heating **completely** by setting the operating mode selector to **standby mode** ⏻.
  or
- You can set the central heating to **minimum energy consumption** (e.g. to prevent houseplants from suffering through cold) by selecting the **holiday program**.

Selecting the holiday program

The holiday program has the following effect:

- Central heating with the selected reduced room temperature (all day)
- Frost protection for the heat pump and the cylinder
- **No** DHW heating

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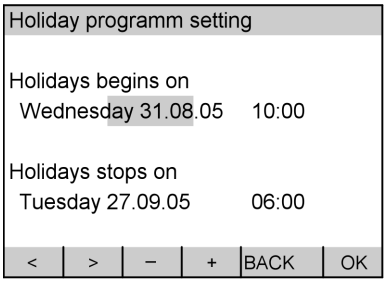
Changing the room temperature for a few days . . . (cont.)

Note
*In case of **two** heating circuits, the holiday program affects **both** heating circuits.*



Press the following keys:

1. **"System settings"**.
2. **"Date and time"**.
3. **"Holidays programm"**.
4. **<** / **>** until the value to be set is highlighted.
5. **−** / **+** until the required value is selected.
6. **"OK"** press to confirm; the holiday program is now set.
   or
7. **"BACK"** if you do not want to enable the holiday program.

Note
Area Ⓕ of the display (see page 7) shows symbol 🏖 when the holiday program is enabled.

Ending the holiday program early

Press the following keys:

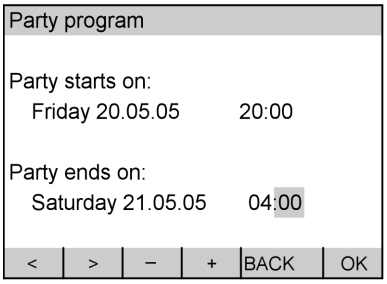
1. **"System settings"**.
2. **"Date and time"**.
3. **"Holidays programm"**.
4. **"YES"** to terminate the holiday program.
5. **"OK"** to confirm.

Changing the room temperature for a few hours only

Selecting the party program

Select the party program, if you want to heat spontaneously at the standard room temperature (e.g. when guests unexpectedly stay longer in the evening). The party program enables you to change the room temperature in the short term, without **permanently** altering your control settings.
During the party program, the equipment heats with the standard room temperature, independent of the selected operating mode and the selected switching times. DHW will be heated in accordance with set switching times (see page 23).

Note
Your heating contractor can program the control unit so that, when the party program is enabled, the DHW cylinder will be heated first.



Press the following keys:

1. **"System settings"**.
2. **"Date and time"**.
3. **"Party program"**.
4. [<]/[>] until the value to be set is highlighted.
5. [–]/[+] until the required value is selected.
6. **"OK"** press to confirm; the party program is now set.
   or
7. **"BACK"** if you do not want to enable the party program.

Note
Area (F) of the display shows the symbol (see page 7) when the party program is enabled.

Ending the party mode early

Press the following keys:

1. **"System settings"**.
2. **"Date and time"**.
3. **"Party program"**.

Changing the room temperature for a few hours . . . (cont.)

4. **"YES"** to terminate the party program.
5. **"OK"** to confirm.

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Selecting constant DHW heating

All settings for DHW heating described in the following will only be effective, if a DHW cylinder has been installed.
Observe the following points if you want to heat DHW:

1. Select , , or at the operating mode selector.
2. **When** DHW is heated with the selected temperature, and when the DHW circulation pump (if installed) will run depends on the settings of **both** switching times (see page 23 and page 25).

Selecting a DHW temperature

Note
On its own*, the heat pump can provide DHW temperatures up to approx. 50 °C. If you require higher DHW temperatures, your local heating contractor can install an instantaneous heating water heater (accessories) into the heat pump. This can be regulated by the heat pump control unit.*

DHW		[°C]
DHW T buffer storage	:	50.0
DHW program temp.	:	–>T
Program circ. pump	:	–>T
Start optimisation	:	Yes
Stop optimisation	:	Yes
HW additional option	:	Yes
2nd Set temp. DHW	:	60.0
↓	–1.0 | +1.0 | STANDA | OK	

Press the following keys:

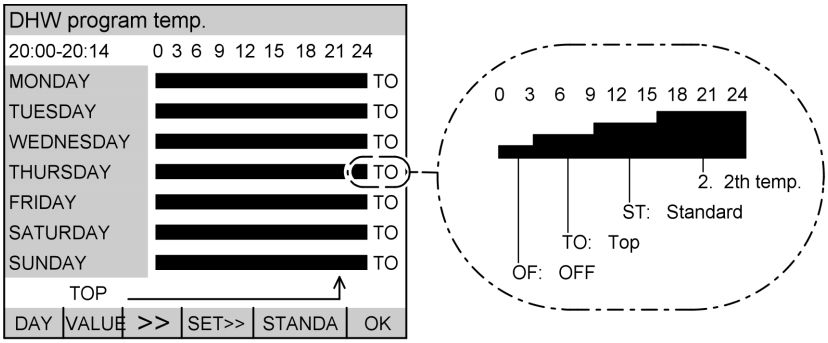
1. **"System settings"**.
2. **"Program"**.
3. **"Domestic hot water"**.
4. ↓ / ↑ until **"DHW T buffer storage"** is highlighted (see the screenshot).
5. **–1,0** / **+1,0** until the required temperature is selected.
6. **"OK"** to confirm and exit the menu.

Setting switching times (time program)

DHW heating can be activated several times a day by setting the switching times.

Selecting constant DHW heating (cont.)

You can select **identical** time programs for every day or **individual** programs for each day separately.
When setting the switching times, take the response time of your heating system into consideration. Select start and stop times correspondingly **earlier** or utilise the "DHW heating start optimisation" function (see page 29) and the "Cylinder heating stop optimisation" function (see page 30).



The height of the bar and the abbreviation indicate the respective operating mode associated with the displayed time (l.h. top of the display).

Note
*In the operating mode "**2th temp.**", the "**2nd set temp. DHW**" is selected as the **constant** DHW temperature (see page 28). The "**2nd set temp. DHW**" is higher than the "**DHW T buffer storage**" (see page 23). This is connected to the "HW additional option" (see page 28).*

Press the following keys:

1. **"System settings"**.
2. **"Program"**.
3. **"Domestic hot water"**.
4. [↓]/[↑] until **"DHW program temp."** is highlighted.
5. [>>>] the menu **"DHW program temp."** is displayed (see the screenshot).
6. **"DAY"** until the respective day or the required period is highlighted.

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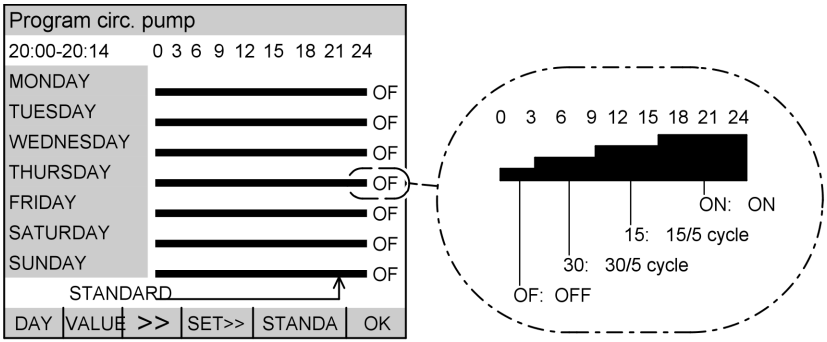
Selecting constant DHW heating (cont.)

7. [>>] until the arrow is positioned at the point (time), from where the operating mode should be changed.
8. **"VALUE"** until the required operating mode is shown.
9. **"SETPT"** for the period during which the modified operating mode should be effective.
10. Proceed as described in items 6 to 9 for the setting of further switching times.
11. **"OK"** to confirm and exit the menu.

Setting switching times for the DHW circulation pump (if installed)

Here you can select when and how (constantly or cycling) the DHW circulation pump should run. In the operating mode "**15/5 cycle**", the DHW circulation pump is started every 15 min for 5 min. In the operating mode "**30/5 cycle**", the DHW circulation pump is started every 30 min for 5 min.



The height of the bar and the abbreviation indicate the respective operating mode associated with the displayed time (l.h. top of the display).

Press the following keys:

1. **"System settings"**.
2. **"Program"**.
3. **"Domestic hot water"**.
4. [↓]/[↑] until **"Program circ. pump"** is highlighted.

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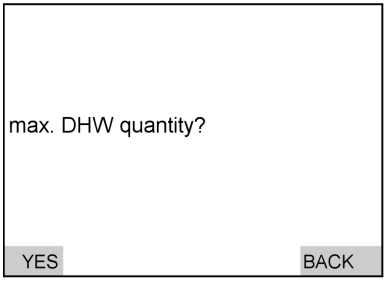
Selecting constant DHW heating (cont.)

5. **>>>** the menu **"Program circ. pump"** is displayed (see the screenshot).
6. **"DAY"** until the respective day or the required period is highlighted.
7. **>>** until the arrow is positioned at the point (time), from where the operating mode should be changed.
8. **"VALUE"** until the required operating mode is shown.
9. **"SETPT"** for the period during which the modified operating mode should be effective.
10. Proceed as described in items 6 to 9 for the setting of further switching times.
11. **"OK"** to confirm and exit the menu.

Enabling once only DHW heating

The following function enables you to activate once only DHW heating, without permanently changing the control settings.



Press the following keys:

1. **"Domestic hot water"**.
2. **"YES"** to confirm; the DHW will be heated up once
   or
3. **"BACK"** if the once only DHW heating should not be activated.

Note
Area Ⓕ of the display shows the symbol "🚰" (see page 7) when once only DHW heating is enabled.

Terminating once only DHW heating

Press the following keys:

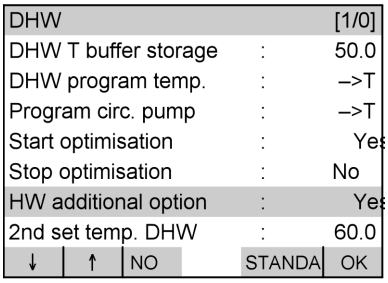
1. **"Domestic hot water"**.
2. **"NO"** to terminate the once only DHW heating
   or

Enabling once only DHW heating (cont.)

3. **"BACK"** if the once only DHW heating should not be terminated.

Auxiliary DHW function

As additional protection against bacteria, you can select the "HW additional option". The first time DHW is heated in any week, the system will heat to the set temperature 2 (see page 28). At the factory, the set temperature 2 is set to 60 °C.
This temperature can only be achieved if the instantaneous heating water heater (accessories) is installed.



Press the following keys:

1. **"System settings"**.
2. **"Program"**.
3. **"Domestic hot water"**.
4. ↓/↑ until **"HW additional option"** is highlighted (see the screenshot).
5. **"YES/NO"** to enable/disable the function.
6. **"OK"** to confirm and exit the menu.

Setting the DHW temperature 2

Here, you can select the required temperature for the weekly heating up of the DHW within the context of the "HW additional option" (see page 28).

Note
You cannot select a higher DHW temperature 2 than the maximum DHW cylinder temperature. The maximum DHW cylinder temperature can only be changed by your heating contractor.

Setting the DHW temperature 2 (cont.)

DHW		[°C]
DHW T buffer storage	:	50.0
DHW program temp.	:	–>T
Program circ. pump	:	–>T
Start optimisation	:	Yes
Stop optimisation	:	Yes
HW additional option	:	Yes
2nd set temp. DHW	:	60.0
	↑ –1.0	STANDA OK

Press the following keys:

1. **"System settings"**.
2. **"Program"**.
3. **"Domestic hot water"**.
4. [↓]/[↑] until **"2nd set temp. DHW"** is highlighted (see the screenshot).
5. [+1,0]/[–1,0] to select the required value.
6. **"OK"** to confirm and exit the menu.

Start optimisation for cylinder heating

This function will only be available if switching times have been set for the DHW cylinder (see page 23).
The start optimisation ensures that DHW is available at the required temperature at the beginning of standard mode.

DHW		[1/0]
DHW T buffer storage	:	50.0
DHW program temp.	:	–>T
Program circ. pump	:	–>T
Start optimisation	:	No
Stop optimisation	:	Yes
HW additional option	:	Yes
2nd set temp. DHW	:	60.0
↓ ↑ YES		STANDA OK

Press the following keys:

1. **"System settings"**.
2. **"Program"**.
3. **"Domestic hot water"**.
4. [↓]/[↑] until **"Start optimisation"** is highlighted (see the screenshot).
5. **"YES/NO"** to enable/disable the function.
6. **"OK"** to confirm and exit the menu.

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Stop optimisation for cylinder heating

This function will only be available if switching times have been set for the DHW cylinder (see page 23).
The start optimisation ensures that DHW is available at the required temperature at the end of standard mode.

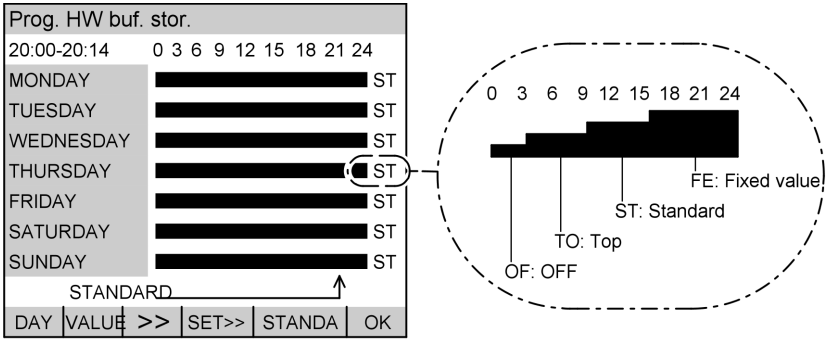
DHW		[1/0]
DHW T buffer storage	:	50.0
DHW program temp.	:	–>T
Program circ. pump	:	–>T
Start optimisation	:	No
Stop optimisation	:	No
HW additional option	:	Yes
2nd set temp. DHW	:	60.0
↓ ↑	YES	STANDA OK

Press the following keys:

1. **"System settings"**.
2. **"Program"**.
3. **"Domestic hot water"**.
4. ↓/↑ until **"Stop optimisation"** is highlighted (see the screenshot).
5. **"YES/NO"** to enable/disable the function.
6. **"OK"** to confirm and exit the menu.

Setting switching times for the heating water buffer cylinder

You can set **identical** switching times for every day or **individual** times for each day separately. When setting the switching times, take the response time of your heating system into consideration. Select start and stop times correspondingly **earlier** or utilise the "Heating circuit start optimisation" function (see page 32).



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Setting switching times for the heating water buffer . . . (cont.)

The height of the bar and the abbreviation indicate the respective operating mode associated with the displayed time (l.h. top of the display).

Note
*In the "**Standard**" operating mode, the heating water buffer cylinder will be heated to the flow temperature selected for the heating circuit.*
*In the "**TOP**" operating mode, a smaller volume of heating water will be available than in the "**Standard**" operating mode.*
*In the "**Standard**" operating mode, the control unit takes the value of the cylinder temperature sensor and the return temperature sensor into consideration. In the "**TOP**" operating mode, the control unit only takes the values of the cylinder temperature sensor into consideration.*
*In the "**Fixed value**" operating mode, the heating water buffer cylinder will be heated to the fixed default temperature. You can utilise this operating mode, for example to heat up the heating water buffer cylinder with economical night tariff power.*
The heating circuit flow temperature and the fixed value temperature are set up by your heating contractor.

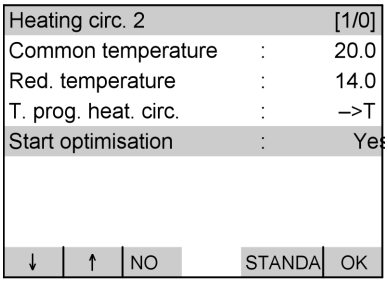
Press the following keys:

1. **"System settings"**.
2. **"Program"**.
3. **"HW buffer storage"**.
4. **>>>** the menu **"Prog. HW buf. stor."** is displayed (see the screenshot).
5. **DAY** until the respective day or the required period is highlighted.
6. **>>** until the arrow is positioned at the point (time), from where the operating mode should be changed.
7. **"VALUE"** until the required operating mode is shown.
8. **"SETPT"** for the period during which the modified operating mode should be effective.
9. Proceed as described in points 5 to 8 for setting further switching times.
10. **"OK"** to confirm and exit the menu.

Start optimisation for heating circuits

This function ensures that, at the start of the programmed switching time for standard mode (see page 18), the required standard set room temperature has already been reached.

Note
This function is only available if, for the heating circuit concerned, a room temperature sensor or a remote control unit with integral room temperature sensor is connected.



Press the following keys:

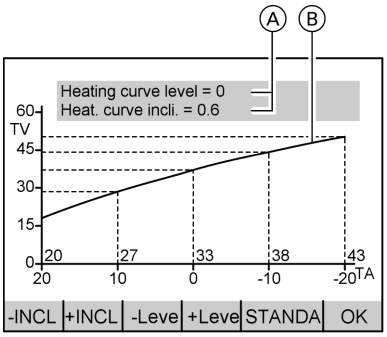
1. **"System settings"**.
2. **"Program"**.
3. **"Heating circuit"**.
4. **"Heating circ. 1"**
   or
   "Heating circ. 2" (if installed).
5. ↓/↑ until **"Start optimisation"** is highlighted (see the screenshot).
6. **"YES/NO"** to enable/disable the function.
7. **"OK"** to confirm and exit the menu.

Modifying the heating circuit characteristics

You can alter the heating characteristics if the room temperature does not meet your requirements for **a longer** time. You alter this by changing the slope and level of the heating curve.
Please observe the modified heating characteristics over **several** days (if possible, await a major change in the weather) before making further adjustments.
Make **short-term** adjustments of the room temperature using rotary selector ☼ (see page 16).
For assistance, use the table on page 33.

Note
*This function is **not** available, if your heating contractor has set the control unit to **"Room control"**.*

Modifying the heating circuit characteristics (cont.)



Press the following keys:

1. **"System settings"**.
2. **"Program"**.
3. **"Heating circuit"**.
4. **"Heating circ. 1"**
   or
   "Heating circ. 2" (if installed).
5. ↓ / ↑ until **"Heating curve level"** or **"Heat. curve incli."** is highlighted (see the screenshot).
6. **>>>** the setting options for heating curve slope and level are displayed.
7. **"-INCL/+INCL"** to change the heating curve slope
   or
8. **"-LEV/+LEV"** to change the heating curve level

   Note
   Figure Ⓐ in the upper dark field as well as the heating curve graphic Ⓑ will change with the axis designation.
9. **"OK"** to confirm and exit the menu.

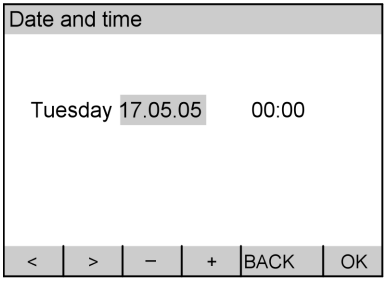
Problem	Measures	Example (figure in window Ⓐ of the graphic, page 33)
The living space is **too cold during the heating season**	Adjust the heating curve **slope** to the **next higher** value (e.g. 0.7)	HEATING CURVE LEVEL = 0 HEAT. CURVE INCLI. = 0.7
The living space is **too hot during the heating season**	Adjust the heating curve **slope** to the **next lower** value (e.g. 0.5)	HEATING CURVE LEVEL = 0 HEAT. CURVE INCLI. = 0.5

Modifying the heating circuit characteristics (cont.)

Problem	Measures	Example (figure in window Ⓐ of the graphic, page 33)
The living space is **too cold during spring/autumn** and during the **heating season**	Adjust the heating curve **level** to the **next higher** value (e.g. 1)	HEATING CURVE LEVEL = 1 HEAT. CURVE INCLI. = 0,6
The living space is **too hot during spring/autumn** and during the **heating season**	Adjust the heating curve **level** to the **next lower** value (e.g. -1)	HEATING CURVE LEVEL = -1 HEAT. CURVE INCLI. = 0.6
The living space is **too cold during spring/autumn**, but warm enough during the heating season	Adjust the heating curve **slope** to the **next lower** value (e.g. 0.5) and the **level** to a **higher** value (e.g. 1)	HEATING CURVE LEVEL = 1 HEAT. CURVE INCLI. = 0.5
The living space is **too hot during spring/autumn**, but warm enough during the heating season	Adjust the heating curve **slope** to the **next higher** value (e.g. 0.7) and the **level** to a **lower** value (e.g. -1)	HEATING CURVE LEVEL = -1 HEAT. CURVE INCLI. = 0.7

Date and time changes (if required)

Date and time are factory-set and may be changed manually.



Press the following keys:

1. **"System settings"**.
2. **"Date and time"**.
3. **"Date and time"**.
4. < / > until the value to be set is highlighted (see the screenshot).

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Date and time changes (if required) (cont.)

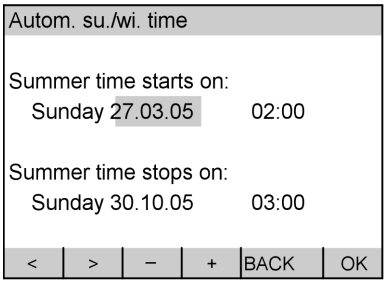
5. [−]/[+] until the required value is selected.

6. **"OK"** to confirm
or

7. **"BACK"** if you do **not** want to save the settings.

Modifying the automatic summer/winter time changeover

The automatic summer/winter time changeover has been programmed at the factory.
The changeover will always take place in the night from Saturday to Sunday on the last weekend in March and October.



Press the following keys:

1. **"System settings"**.

2. **"Date and time"**.

3. **"Auto. Su./Wi. time"**.

4. [<]/[>] until the value to be set is highlighted (see the screenshot).

5. [−]/[+] until the required value is selected.

6. **"OK"** to confirm
or

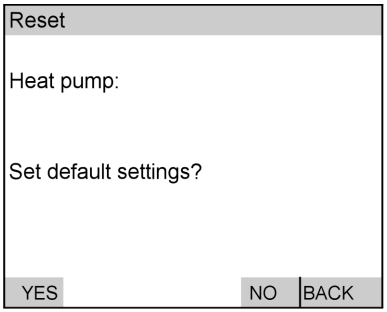
7. **"BACK"** if you do **not** want to save the settings.

Restoring the standard factory settings

Apart from the option of resetting all settings **individually** to their standard values using the **"STANDA"** key, there is also the **"Reset"** option. This returns **all** settings of the selected function group to their factory settings.
Subject to the actual system configuration, not all eight function groups (**"System definition"**, **"Heat pump"**, **"Electric heating"**, **"Internal hydraulics"**, **"Domestic hot water"**, **"Heating circ. 1"**, **"Heating circ. 2"** and **"HW buffer storage"**) may appear in the display.

Restoring the standard factory settings (cont.)

Note
A reset at the user level will only restore the standard factory settings at the user level.
*Contact your heating engineer regarding resetting **all** parameters.*

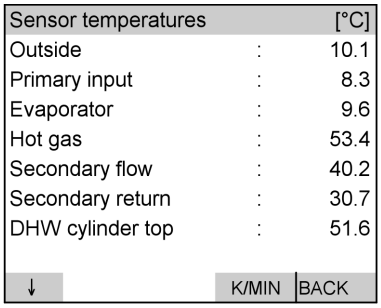


Press the following keys:

1. **"RESET"** (see the screenshot).
2. **"YES"** to confirm; the scan for the next function group (e.g. "Domestic hot water") will be displayed
   or
3. **"NO"** if you do **not** want to reset this function group.
   or
4. **"BACK"** if you do not want to reset **any** function groups.

Scanning temperatures

Here, you can scan temperatures or temperature changes at the internally and externally connected temperature sensors.

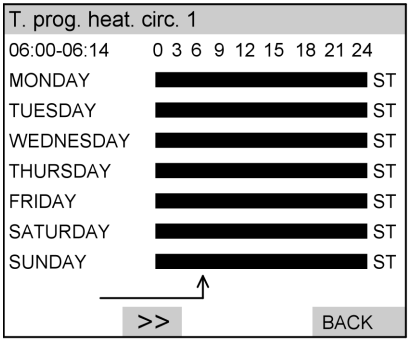


Press the following keys:

1. **"Information"**.
2. **"Sensor temperatures"** (see the screenshot).
3. [↓]/[↑] to select the temperature to be scanned.
4. [K/MIN] to display the temperature rise or drop per minute)
   or
5. [°C] to display the current temperature.
6. **"BACK"** to exit the menu.

Scanning time programs

Here, you can **scan**, but not change the switching times for the heating circuit (s), the DHW cylinder, the DHW circulation pump and the buffer cylinder. Should the switching times be **changed**, proceed as described on page 18, 23, 25 or 30.



Press the following keys:

1. **"Information"**.
2. **"Switching times"**.

Scanning time programs (cont.)

3. **"T. prog. heat. circ. 1"**
   or
   "T. prog. heat. circ. 2" (if installed)
   or
   "Temp. program DHW"
   or
   "Prog. circ. pump" (if installed)
   or
   "Prog. HW buf. stor." (if installed).

4. **>>** to start the graphic display. Time is displayed in the top l.h. corner of the display; the selected operating mode to the right of the graphic (for an explanation of abbreviations, see pages 18, 23, 25 and 30).

5. **"BACK"** to exit the menu.

Scanning statistics

In this menu, you can scan the hours run, the average runtimes and the number of starts of the following components:

- **"Primary pump"**
- **"Compressor"**
- **"Secondary pump"**
- **"E heating 1"**
- **"E heating 2"**
- **"Heat. circuit 1 pump"**
- **"DHW charge pump"**
- **"Circulation pump"**
- **"Natural cooling"**
- **"Fault message"**

Furthermore, you can make enquiries regarding the **fault history** (see page 42).

Hours run, average runtime and number of starts

Press the following keys:

1. **"Information"**.

2. **"Statistics"**.

3. **"Operating hours"**
   or
   "Average operating time"
   or
   "No. of starts".

4. **↓** to display additional information regarding further components, such as **"Natural cooling"** or **"Fault message"**.

5. **"BACK"** to exit the menu.

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Illustration of the operating conditions in the system design

Here, you can check current values and the setting of individual components for the selected system design (see the figure of system design 6).

Press the following keys:

1. **"Information"**.

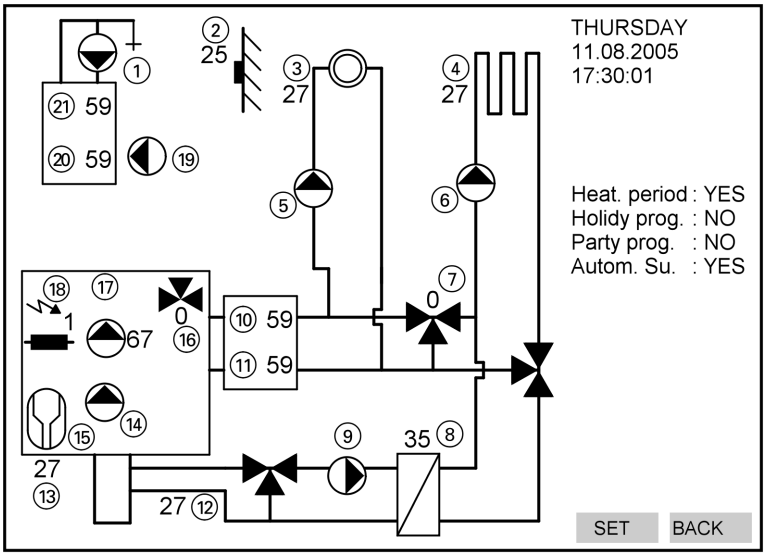
2. **"System overview"**.

3. **"SETPT/ACTU."** to change over between set and actual values.

   Note
   *Actual values are currently displayed, if the key has the designation **"SETPT"** (and vice-versa).*

4. **"BACK"** to exit the menu.

System design 6 with heating water buffer cylinder and natural cooling



① Operating display; DHW circulation pump
② Temperature **"Outside"**
③ Temperature display; room temperature sensor or remote control; heating circuit 1
④ Temperature display; room temperature sensor or remote control; heating circuit 2
⑤ Operating display; heating circuit 1 pump

Illustration of the operating conditions in the system . . . (cont.)

⑥ Operating display; heating circuit 2 pump
⑦ Position indication of heating circuit 2 mixer in %
⑧ Temperature **"NC flow"**
⑨ Operating display; primary cooling circuit pump
⑩ Temperature **"HW buffer storage"**
⑪ Temperature **"Secondary return"**
⑫ Natural cooling mixer position indication in %
⑬ **"Primary input"** temperature
⑭ Operating display; primary pump
⑮ Operating display, compressor
⑯ Position indication; **"Heat/DHW"** mixer in %
⑰ Operating display; secondary pump
⑱ Operating display; electric heating with output stage indication (1: 3 kW, 2: 6 kW, 3: 9 kW)
⑲ Operating display; cylinder primary pump
⑳ Temperature **"DHW cylinder bottom"**
㉑ Temperature **"DHW cylinder top"**

Fault messages

Faults are captured, displayed and saved by the equipment.
If the system has developed a fault, the fault symbol ↯ will flash in area Ⓕ of the display (see page 7) and a red LED flashes in the equipment front panel.
After pressing "Standard display", a maximum of eight faults are displayed in the order of their priority.

Note
Not in every case is a fault message displayed because the heat pump has developed a fault.
Fault messages may also be caused by incorrect operating steps or faults on other system components.
*Make a note of the type of fault, (e.g.: **"C1 : Net/Compressor"**), and notify your heating contractor accordingly.*
This allows the heating contractor to better assess the situation and may save unnecessary travelling expenses.

Acknowledging fault messages

Any active fault messages will be displayed after opening the programming unit flap.

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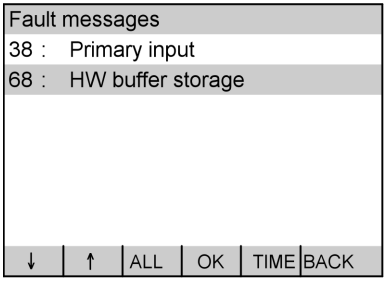
Fault messages (cont.)

These can be acknowledged, as soon as their cause has been removed. After acknowledging a fault the control unit checks, whether the fault has been removed. If that is not the case, then the fault will be redisplayed a few seconds later.

Note
Only with the optional instantaneous heating water heater (accessories):
*If the fault **"A9: Heat pump"** is acknowledged, the system will be heated in accordance with the selected operating mode (e.g. standard mode) by the instantaneous heating water heater (with correspondingly **high power consumption**).*
*Therefore, use this function only to **bridge** the time until your heating engineer arrives.*



1. Open the programming unit flap. All current fault messages (maximum eight) are listed (see the screenshot).

2. If you do **not** want to acknowledge all fault messages, select the relevant fault messages with [↓]/[↑].

3. Press **"OK"** to acknowledge the **highlighted** fault message
   or

4. Press **"ALL"** to acknowledge **all** fault messages

   Note
   The fault messages will not be deleted and can be scanned again.

   or

5. Press **"TIME"**, to display the time the fault occurred.
   Pressing **"FAULT"** returns you to the fault display.

6. Press **"BACK"** to exit the menu.

Scanning fault messages

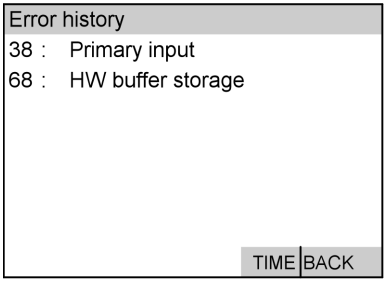
There are two methods for scanning fault messages.

Fault messages (cont.)

Scanning current fault messages

1. Open the programming unit flap. All current fault messages will be displayed.
2. Acknowledge the fault messages (see page 40) or return with **"BACK"** to the main menu.

Scanning saved fault messages



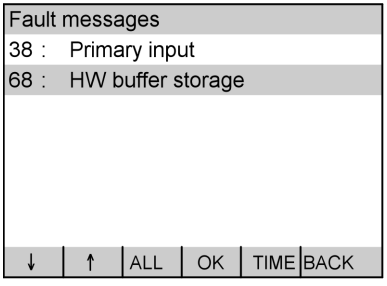
Press the following keys:

1. **"Information"**.
2. **"Statistics"**.
3. **"Error history"** (see the screenshot).
4. **"TIME"** to display the time of the fault occurrence.
5. **"FAULT"** to return to the fault display.
6. **"BACK"** to exit the menu.

Note
The fault messages cannot be acknowledged in the fault history. All faults are listed in the order of their occurrence; the most recent fault is at the top of the list.

Skipping fault messages

Even if current fault messages are displayed, settings and scans can still be implemented at the control unit.



1. Open the programming unit flap. All current fault messages are listed (see the screenshot).

Fault messages (cont.)

2. Press **"BACK"** to exit the user menu.
   You can now make adjustments and scans.

   Note
   The fault messages will not be deleted and can be scanned again.

The display screen darkens

Cause	Remedy
Power failure/fault in the power supply	The heat pump starts up automatically, as soon as power is restored or the fault is rectified
Fuse dropped out/blown	Notify your local contractor
The equipment was switched OFF at the system ON/OFF switch	Start the equipment (see page 11)

The display shows the message "Your heat pump is stopped because of EVU blockage"

Cause	Remedy
This is not a fault. This text is displayed during a power interruption by your power supply utility (see also page 5).	The heat pump restarts in accordance with the selected operating mode as soon as the utility restores the power supply.

The fault symbol "ᛋ" flashes on the display screen

Cause	Remedy
Heating system fault	Scan the type of fault (see page 41) and notify your local heating contractor

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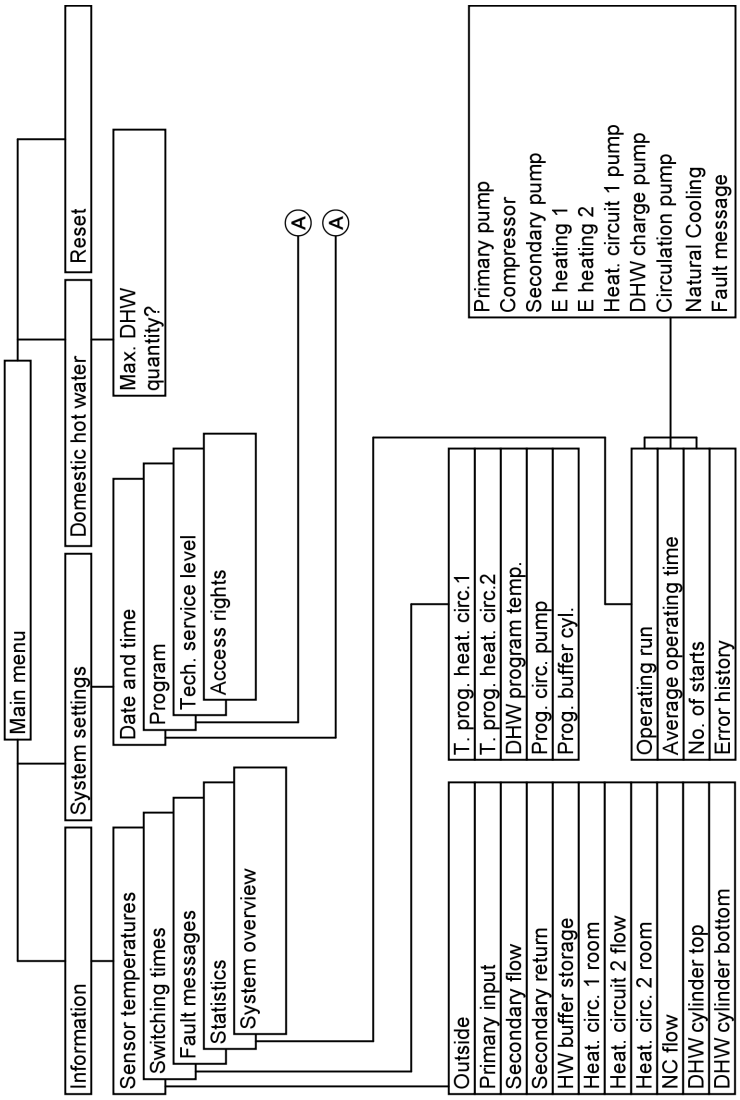
Menu structure overview

Note
Subject to the system equipment level, not all menu items will be made available.

Menu structure overview (cont.)



Ⓐ see the next screen

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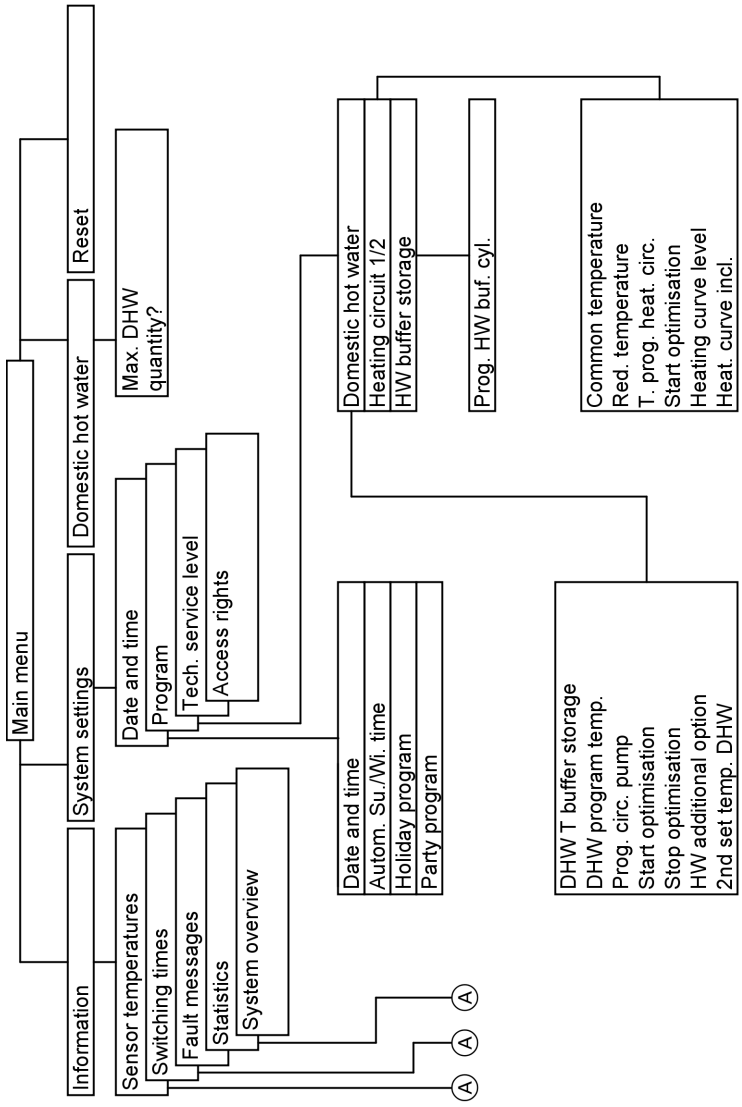
Menu structure overview (cont.)

Note
Subject to the system equipment level, not all menu items will be made available.

Menu structure overview (cont.)



Ⓐ see the previous screen

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Cleaning

This equipment may be cleaned with a commercially available domestic cleaning agent (non-scouring).

Inspection and maintenance

Inspection and maintenance of your heating system is made compulsory by the Energy Savings Order [Germany].
Regular maintenance ensures a trouble-free, energy-efficient and environmentally responsible heating operation. For this, we strongly advise you to arrange an inspection and maintenance contract with your local heating contractor.

DHW cylinder

DIN 1988-8 and EN 806 prescribe that maintenance and cleaning should be carried out no later than two years after commissioning and thereafter in regular intervals.
Only a qualified heating contractor should clean the inside of a DHW cylinder and the DHW connections.

Refill any water treatment equipment (e.g. a lock or injection system) in good time if such equipment is installed in the cold water supply of the DHW cylinder. Observe the manufacturer's instructions.
Regularly backflush and maintain any dirt traps or filters that may be installed in the cold water supply of the DHW cylinder.

Safety valve (DHW cylinder)

Check the safety valve function every six months by venting, or have it checked by your heating contractor. The valve seat may become contaminated (see the valve manufacturer's instructions).

Inspection and maintenance (cont.)

Potable water filter (if installed)

For reasons of hygiene
- renew filter insert on non-backflushing filters every six months (visual inspection every two months),
- on backflushing filters, backflush every two months.

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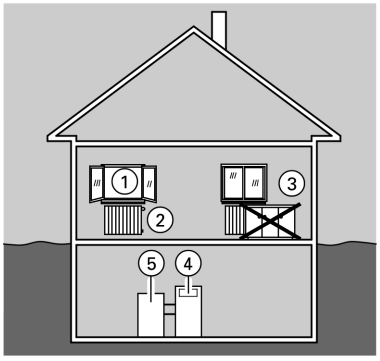
Energy saving tips

Along with using a modern heating system, you can save additional energy by your own actions.
The following steps will help you with this:



- Correct airing:
  Briefly open windows ① fully and at the same time close thermostatic radiator valves ②.
- Never overheat:
  endeavour to achieve a room temperature of 20 °C; every degree of room temperature reduction saves up to 6% of your heating bills.
- Close roller shutters (where installed) at dusk.
- Set thermostatic valves ② correctly.
- Never cover radiators ③ or thermostatic valves ②.
- Set the DHW temperature of the DHW cylinder ⑤ at the control unit ④.
- Activate the DHW circulation pump only for those times (via switching times at the control unit), when DHW is likely to be drawn (e.g. in the morning and evening).
- Controlled DHW consumption:
  a shower generally uses less energy than a full bath.

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Keyword index

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Keyword index (cont.)

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Keyword index (cont.)

W

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Your contact

Contact your local contractor if you have any questions regarding the maintenance and repair of your system. You may, for example, find local contractors on the internet under www.viessmann.com.

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Printed on environmentally friendly, chlorine-free bleached paper

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